

PHOTONICS



spectra

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue.

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Smart Perception is the Next Stage for Machine Vision

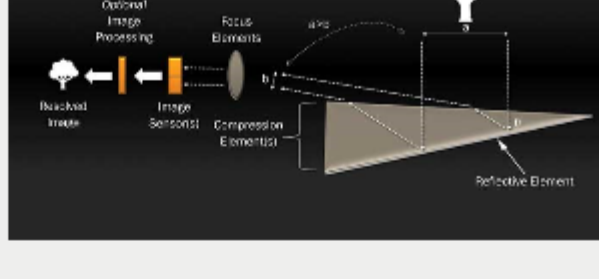
An innovation in hyperspectral imaging combines the high resolution of a line scan sensor with the capabilities of a snapshot camera. Intelligent robotics is one of the technological disruptions that will fundamentally alter society — both from an industrial and a social perspective. And “smart perception” is a key concept that will drive this evolution toward intelligent robotics. Indeed, in the next 20 years, micro-sized cameras will look at every angle, depth, mode or change in any given scene and report back with all relevant information.



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Flat Surface Lens Overcomes Limitations of Conventional Optics

The telescope has been used for more than 400 years. Although there have been many designs created for looking at distant objects, there is a fundamental weakness with the lens system. By necessity, telescopes use curved lenses — which are prone to aberrations. For the first time, a novel flat surface lens system offers the potential for better resolution from a significantly more compact size.



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Via Photonics, Secure Communications

Quantum key distribution as well as emerging techniques that harness temporal cloaking and optomechanical crystals vie for securing optical communications. Much of the world's communications travel by light.

So, data carried on photons moving through free space or over fiber must be made as secure as possible. Quantum key distribution helps do that. Also, security improvements via temporal cloaking and optomechanical crystals are on the horizon.



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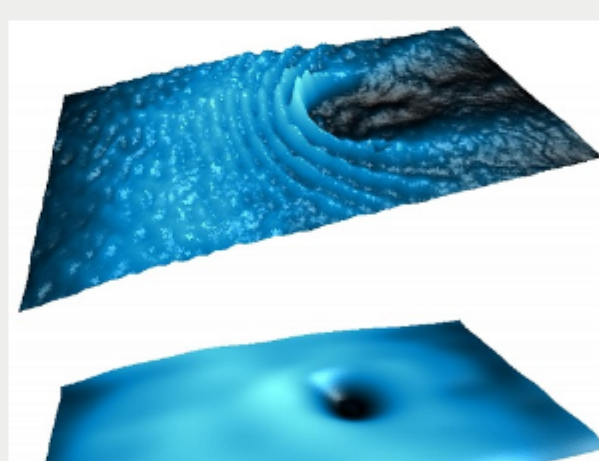
Eliminate Back Reflections with EOT's High Power Optical Isolators

[Click here for more information](#)
www.eotech.com

In Case You Missed It

Photons and Electrons Produce Hybrid Light-Matter Fluid

Light is composed of waves, but it can also behave like a liquid. In certain circumstances it can ripple and spiral around obstacles. These liquid properties of light emerge when the photons that form the light wave interact with each other.



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Quantum Dots, Fluorescent Proteins Vie for Supremacy

Rubber-like material embedded with fluorescent proteins could replace an inorganic phosphor in white hybrid LEDs.

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Foliage-Piercing Lidar Surveys Hidden Ground

A new methodology based on gated digital holography paired with a specially designed laser system allows lidar to see through obscured elements of terrain like foliage or netting.

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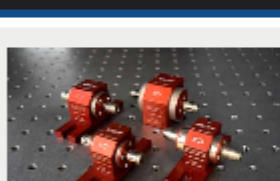
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Featured Products

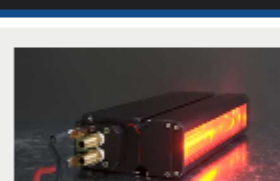


Tornos Series Optical Isolators

Electro-Optics Technology Inc.

Effectively eliminate optical feedback with EOT's Tornos Series wavelength tunable optical isolators for use with laser diodes and low- to medium-power applications between 532-980nm. Wavelength tunability allows optimal isolation at a variety of wavelengths while an optional $\lambda/2$ plate is also available.

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Brightest, Best Line Scan Lights

Smart Vision Lights

Smart Vision Lights' innovative design of the Line High-Power (LHP) and economic LCHP series of line scan lights allow delivery of the most intense and fully focusable line light for machine vision line scan applications available today.

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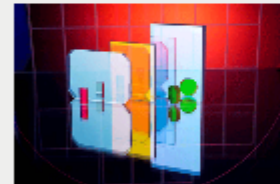


Delay Line Linear Stages

Newport Corporation

Newport Delay Line Linear Stages offer high performance at a very affordable price. Linear motor driven stages with an integrated motion controller and optimized for repeatable positioning and fast traverse speeds, make the DLS Linear Stage the ideal solution in your lab for spectroscopy applications that require delay lines.

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Alluxa Ultra Series Filters and Coatings

Alluxa

Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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Combined Spectrometer / Microscope

PicoQuant GmbH

Time-resolved fluorescence measurements are one of the most valuable tool for spectroscopists to investigate the excited state dynamics of molecules, complexes, or semi-conductors. Thanks to a new fiber coupling sample holder, the high-end time-resolved spectrometer FluoTime 300 from PicoQuant can be interfaced to a microscope such as the MicroTime 100.

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Mid IR Fiber Collimator

Micro Laser Systems Inc.

The FC5 Mid IR Fiber Collimator operates between 2.5 μ m and 6 μ m. Output beam is user adjustable. Fine 80 pitch threads allow you to optimize collimation for your operating wavelength and lock it down.

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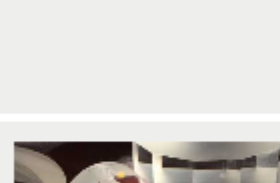


The Aries Spectroradiometer

Gooch & Housego Orlando

We are proud to introduce our next generation spectroradiometer, the Aries. Based on the proven design and performance of the OL 770, the Aries offers an array of enhanced capabilities, including WiFi and Ethernet connectivity for easy integration into production environments.

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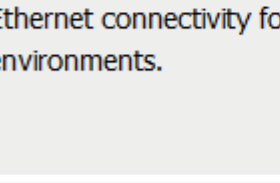


Precision Optical Manufacturer

BMV Optical Technologies Inc.

Operating since 2001, BMV Optical Technologies is a manufacturer of very high precision optical components, systems and thin-film products. Manufacturing from prototype to volume quantities, our products are primarily used in laser based applications.

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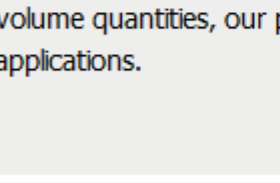


The 2017 Photonics Buyers' Guide - Special Offer

Photonics Media

If you buy products and services related to lasers, optics, imaging, sensors, detectors, test and measurement, light sources, fiber optics, spectroscopy, materials and coatings -- you need the Photonics Buyers' Guide. Our editors verify all 4000+ company listings annually.

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Low-Cosmetic Defect IR Filters for Thermal Imaging

Spectrogon US

Spectrogon manufactures infrared filters and windows with high transmission, high rejection outside the passband, and introducing low cosmetic defects -- while maintaining excellent coating uniformity --- for thermal imaging applications.

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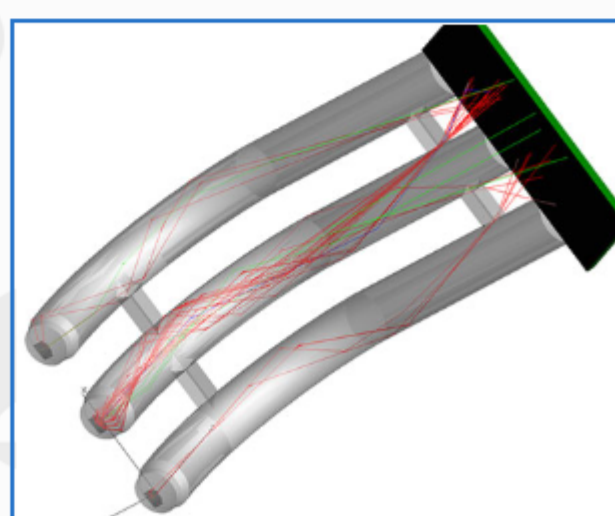
Webinars

Learn Efficient Light Pipe Design Using Virtual Prototyping

Tue, Sep 19, 2017 1:00 PM - 2:00 PM EDT

Attendees will learn how to design better, more efficient light pipes using Lambda Research's TracePro software - a 3D CAD virtual prototyping program with the horsepower and tools to simulate and design light pipes. The webinar will cover effective methods and detailed procedures for simulating light propagation in a light pipe model; analyzing cross-talk effects; producing desired output objectives; and optimizing design-for efficiency and output. This webinar is for anyone designing light pipes, especially for automotive and avionic displays, industrial manufacturing, consumer electronics applications and medical devices. Presented by Lambda Research Corporation.

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Coming in September...

Features

Optical Materials in Aerospace; Ultrafast Bandgap Photonics; Photoacoustic Spectroscopy; Lidar

Issue Bonus

The Reader Issue: Highlighting Our Audience's Accomplishments

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our quarterly *Photonics Spectra*. Please submit an informal 100-word abstract to Managing Editor Mike Wheeler at mike.wheeler@photonics.com or use our online submission form www.photonics.com/submitfeature.aspx.

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Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

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